

REMARKS

In the Final Office Action, claims 1-7, 9-23, 25, and 26 were rejected. By the present Response, claim 16 is cancelled. No claims are amended or added. Hence, claims 1-7, 9-15, 17-23, and 26 remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Claim Objections

Applicants have canceled claim 16.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 17 and 25 under 35 U.S.C. § 102(b) as anticipated in view of U.S. Patent No. 6,229,870 (the Morgan reference). In addition, the Examiner rejected claims 17 and 25 under 35 U.S.C. § 102(b) as anticipated in view of U.S. Patent No. 5,175,754 (the Casey reference). Applicants respectfully traverse this rejection.

A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

In the present case, the rejection is not appropriate because the prior art references that used to reject the claims do not disclose each and every element of the Applicants' claims. For example, independent claims 17 and 25 recite "a distributed X-ray source configured to rotate about a volume of interest *in eight or more seconds*." (Emphasis added). Accordingly, Applicants' technique utilizes a CT system having a rotating gantry configured to complete one revolution in eight or more seconds. According to the present technique, such slow rotational speeds are advantageous in obtaining high resolution images of moving organs.

In contrast, the Morgan reference makes no disclosure concerning the rotational speeds of CT system gantries. Consequently, there is no teaching in Morgan which suggests or discloses the claimed “distributed X-ray source configured to rotate about a volume of interest *in eight or more seconds*.” (Emphasis added). Furthermore, the Examiner does not indicate where in the Morgan reference such subject matter is disclosed. Therefore, if the Examiner wishes to maintain the present rejection, the Applicants respectfully request that the Examiner cite with specificity to where the Morgan reference discloses the recited rotational speed, as required by 37 CFR § 1.104 (c) (2). In addition, if the Examiner’s position is that such a rotational speed is *inherent* in the Morgan disclosure, the Applicants respectfully remind the Examiner that the Examiner has the burden of proof for such a showing and must demonstrate that the missing descriptive matter is necessarily present in the Morgan reference and would be so recognized by those of ordinary skill in the art. *See* M.P.E.P. § 2112, IV. In other words, the Examiner must show that the Morgan reference discloses a distributed X-ray source that *must* be configured to rotate about a volume of interest in eight or more seconds.

The Casey reference cannot anticipate independent claims 17 and 25 because it, too, fails to disclose a gantry configured to rotate in eight or more second. As admitted by the Examiner, no such disclosure is found in the Casey reference. *See* Office Action, page 4. Accordingly, absent any such disclosure or a showing as to the inherency of such a disclosure, the Examiner’s rejection of the claims cannot stand. Furthermore, the Applicants respectfully note that the Casey reference also appears to be devoid of any disclosure of a distributed X-ray source comprised of a plurality of addressable X-ray focal spots. At best, the Casey reference discusses an X-ray source 12 which projects X-rays from a single focal spot, where the focal spot “wobbles”. Casey, col. 4, lines 34-38, 63-68. Therefore, no *prima facie* case of anticipation is believed to exist with regard to claims 17 and 25 in view of Casey. If the Examiner wishes to maintain the present rejection the Applicants respectfully request that the Examiner provide specific citations to the Casey reference disclosing the distributed X-ray source as presently recited. Absent such a

showing, the Applicants respectfully request withdrawal of the rejection of claims 17 and 25 and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1 and 9 under 35 U.S.C. § 103(a) as obvious in view of the Casey et al. reference. In addition, the Examiner rejected claim 9 as obvious in view of the Morgan reference and separately in view of the Casey reference. Applicants traverse these rejections.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must not only show that the cited references include *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

The obviousness rejection based on the Morgan and Casey references is improper since both references taken alone or together fail to disclose each and every element recited in the claims. Particularly, as argued above, the claimed “distributed X-ray source about a volume of interest, wherein a rotational period of the gantry is greater than eight seconds” is not taught in either reference. Moreover, neither the Casey nor the Morgan reference discloses motivation for CT gantries to have rotational periods greater than eight seconds. In fact, the Casey reference discloses motivations for having CT gantries with higher, not lower, rotational periods, so that images of moving organs may be obtained. *See* Casey, col. 2, lines 3-5. Applicants note that the claimed invention is aimed exactly at curing such a tradeoff. According to the present technique, generating temporally interpolated projections, enable lowering, not increasing, rotational periods of a CT, gantry so that

images of the moving organ may be obtained with an increased, not decreased, resolution. Applicants respectfully contend that such a contrast, absent impermissible reliance on hindsight analysis, further diminishes any motivation to combine or modify the Casey reference, so as to render claims 1 and 9 obvious. Accordingly, the Casey reference taken alone or in combination with the Morgan reference cannot and does not render the claimed invention as obvious.

In view of these deficiencies, the rejections of claims 1 and 9 as obvious in view of the Morgan reference and in view of the Casey reference are, therefore, respectfully requested to be withdrawn.

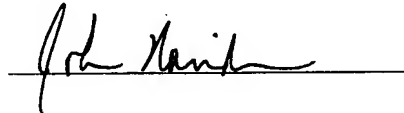
The Examiner rejected remaining dependent claims under 35 U.S.C. § 103(a) as obvious in view of the Morgan reference, the Casey, reference, and further in view of U.S. Patent No. 5,383,231 ("the Yamagishi reference") and U.S. Patent No. 6,466,640 ("the Taguchi reference"). Applicants respectfully traverse these rejections. Applicants respectfully submit that the remaining dependent claims are at least allowable based on their dependencies on independent claims 1, 9, 17, and 25, because the Yamagishi and the Taguchi references do not cure the deficiencies described above in regard to the Morgan and Casey references. For at least these reasons, Applicants respectfully assert that the Examiner has clearly not established a *prima facie* case of obviousness with regard to the remaining dependent claims. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections and allow the remaining dependent claims.

Conclusion

In view of the remarks and amendments set forth above, the Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: February 21, 2006

A handwritten signature in dark ink, appearing to read "John M. Rariden", is written over a horizontal line.

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